

What is claimed as invention is:

1. In a floating offshore structure having a center well and a cylinder-stem assembly received in the center well for supporting a riser, a gap controlling interface guide,
5 comprising:

a. a cylinder attached to the upper portion of the riser;

b. a longitudinal wear strip mounted on the exterior circumference of said cylinder, said wear strip positioned at an angle relative to a tangent to the exterior of said
10 cylinder; and

c. a mating guide mounted in the center well of the floating offshore structure at an elevation such that for all vertical positions of the cylinder-stem assembly there is sufficient area of interface with said longitudinal wear strip
15 and positioned at a complementary angle to said longitudinal wear strip.

2. The gap controlling interface guide of claim 1, further comprising a wear stop attached to said mating guide and facing said wear strip.

20 3. The gap controlling interface guide of claim 1, wherein said mating guide is non-compliant.

4. The gap controlling interface guide of claim 1, wherein said mating guide is compliant.

5. The gap controlling interface guide of claim 1, wherein at
25 least three sets of said wear strips and mating guides are spaced around the circumference of said cylinder.

6. In a floating offshore structure having a center well and a cylinder-stem assembly received in the center well for

supporting a riser, a gap controlling interface guide, comprising:

a. a cylinder attached to the upper portion of the riser;

5 b. at least three longitudinal wear strips mounted on and spaced around the exterior circumference of said cylinder, said wear strips positioned at an angle relative to a tangent to the exterior of said cylinder; and

10 c. a non-compliant mating guide mounted in the center well of the floating offshore structure at the same elevation as each of said longitudinal wear strips and positioned at a complementary angle to said wear strip.

15 7. In a floating offshore structure having a center well and a cylinder-stem assembly received in the center well for supporting a riser, a gap controlling interface guide, comprising:

a. a cylinder attached to the upper portion of the riser;

20 b. at least three longitudinal wear strips mounted on and spaced around the exterior circumference of said cylinder, said wear strips positioned at an angle relative to a tangent to the exterior of said cylinder; and

25 c. a compliant mating guide mounted in the center well of the floating offshore structure at an elevation such that for all vertical positions of the cylinder-stem assembly there is sufficient area of interface with each of said longitudinal wear strips and positioned at a complementary angle to said wear strip.

8. The gap controlling interface guide of claim 7, further comprising a wear stop attached to said mating guide and facing

said wear strip.